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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/550,596	04/17/2000	Mauro Bettiati	10138-0002-2	1077

7590 01/29/2004

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EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT PAPER NUMBER

2828

DATE MAILED: 01/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/550,596

Applicant(s)

BETTIATI ET AL.

Examiner

Armando Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed November 25, 2003 have been fully considered but they are not persuasive.

Regarding applicant's arguments on page 5 pertaining to the maximum wavelength, applicant's attention is directed to column 6 lines 5-10 where Ventrudo et al (6,233,259) discloses the laser emitting wavelengths within the range of 965-1025 nm, thereby the laser does have a maximum wavelength.

Regarding applicant's arguments on page 5 pertaining to the reflection coefficient at a wavelength that is less than the maximum wavelength by at least 10 nm. Applicant's attention is directed to column 4 lines 12-13, where Ventrudo et al (6,233,259) discloses a Bragg grating having a reflectivity within 10 nm of the laser emission wavelength, since the laser is capable of emitting a maximum wavelength the grating will reflect a wavelength within 10 nm and will lock the laser to such a wavelength see column 4 lines 48-65, furthermore Ventrudo et al and the present application describe similar structural arrangements of a laser cavity coupled to an optical fiber having a grating thereby both structures will provide similar functions.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 24-27,29,31,33-36,38,39 are rejected under 35 U.S.C. 102(e) as being anticipated by Ventrudo et al (PN 6,233,259).

Ventrudo et al illustrates in figure 2 a pigtailed diode laser having a fiber Bragg grating for stabilizing the intensity and frequency fluctuations of the diode laser.

Regarding claim 24-27,29,33,38,39,

Figure 2 illustrates a laser cavity (26), which provides a laser radiation (28) having a wavelength, an optical fiber (32) coupled to the laser cavity the optical fiber having a Bragg grating (34) for reflecting the laser radiation, as described in column 3 lines 49-65. The fiber grating is selected to have a maximum reflectivity within 10 nm of the diode laser emission wavelength, as disclosed in column 4 line 12-13. Column 6 lines 48-53 disclose the pigtailed diode laser as being stable even when the current or temperature are altered and that no control of the laser diode temperature is required, thereby the laser diode is operated at ambient temperature.

Regarding claim 31,

Column 6 lines 5-12, describes the grating having a reflectivity of 3%.

Regarding claim 34-36,

The laser diode of figure 2 illustrates an emission facet (27) and a quantum well or index guided structure from InGaAs semiconductor material (not shown) but disclosed in column 3 lines 50-60. The reflection facet is not shown or disclosed, however such a reflection facet is inherent within the laser system.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 28,30 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ventrudo et al (PN 6,233,259) in view of Doussierre et al (PN 5,717,711)

Ventrudo et al discloses in column 4 lines 60-66, the effects of the Bragg grating as reducing mode hopping but does not disclose the reflection coefficient of the grating as more than 10 times greater than the reflection coefficient of the output face.

In column 3 lines 28-33, Doussierre et al discloses a grating having reflection coefficient of .10 and the facet F1 (output facet) having a reflection coefficient as negligible, which implies very small compared to .10.

Therefore, it would have been obvious to person having ordinary skill in the art at the time of the invention to modify the laser of Ventrudo et al with the reflection coefficient scheme of Doussierre et al because it will eliminate mode hopping, see column 2 line 1. Furthermore, as disclosed by Ventrudo et al and Doussierre et al the coefficient of reflection of the output face or the grating is a mere design preference, since both Ventrudo et al and Doussierre et al having different coefficients of reflection schemes within there laser systems provide the same result of reducing mode hopping within the laser system.

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Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ventrudo et al (PN 6,233,259) in view of Ventrudo (PN 6,240,119).

The use of optical elements for coupling laser radiation is well known in the art, as shown by Ventrudo. Figure 1 illustrates a pigtailed laser diode having a collimating lens (22) and a focusing lens (24) for coupling the laser diode radiation to the optical fiber.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is 571-272-1952. The examiner can normally be reached on 10-hour day / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 571-272-1941. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4881.


Armando Rodriguez
Examiner
Art Unit 2828


Paul Ip
Supervisor
Art Unit 2828

AR/PI